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OFFICIAL DHI

OWNER SAMPLER

WEIGH-A-DAY-A-MONTH

AGRICULTURAL RESEARCH SERVICE, U. S. DEPARTMENT OF AGRICULTURE

A plan for every size herd

Dairy-Herd-Improvement Letter

ARS 44-230
(Vol. 47, No. 5)

May 1971

STATE LACTATION AVERAGES BY BREED AND YEAR FOR OFFICIAL DHI
COWS CALVING FROM 1961 THROUGH 1968 1/

This publication contains lactation averages for milk yield (lb.), fat percentage, and fat yield (lb.) for cows calving in different States by breed and year of calving for the years 1961-68. Lactation averages have been standardized to a twice-a-day milking (2X), 305-day lactation length, mature equivalent (M.E.) basis.

State lactation averages for the years 1962, 1963, 1964, 1965, 1966, 1967, and 1968 are being reported for the first time. Lactation averages for 1961 were previously reported in ARS 44-143, DHIA Lactation Averages 1960-61. However, the breed-year averages in the current publication may differ from previous State lactation averages because of the more appropriate adjustment factors used in these computations.

Records included in averages.--Only Official DHI records 2/ which passed USDA editing procedures described in Dairy-Herd-Improvement Letter, ARS 44-222, December 1970, were
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2/ DHIR records are included since they are also Official DHI records.

Issued June 1971

included in the averages. Cows were not included if the breed of sire and breed of dam were different. Records of cows with unknown sires or dams were included in averages for the cow's breed.

For instance, a cow reported as a Brown Swiss (breed 5) would not have been included if her dam was coded as another breed. However, if the cow's sire or dam had been reported as breed 0, unknown, the cow would have been included in the averages for Brown Swiss cows.

How records were standardized to a 2X, 305-day, M.E. basis.--Lactations where cows were denied an opportunity to milk 305 days were projected to a 305-day basis with factors that account for differences in lactation curves by breed, age, and the two yield traits--milk and fat. These factors are currently used by USDA and were published in Dairy-Herd-Improvement Letter, ARS 44-164, August 1965.

All lactations were adjusted to a mature equivalent (M.E.) basis by the age adjustment factors currently in use by USDA. These account for variation due to breed, season, region, and the two yield traits--milk and fat. The factors used were published in Dairy-Herd-Improvement Letter, ARS 44-188, February 1967.

Lactations made on three- or four-times-a-day milking were reduced to a twice-a-day (2X) basis with factors published in ARS 52-1. 3/

Fat percentages were computed from the 2X, 305-day, M.E. milk and fat yields, which put them on the same basis.

Tables of State averages and numbers of records by breed and year.--The number of Official DHI lactation records available in each State for each year of calving and respective 2X, 305-day, M.E. averages for lactation milk yields, fat percentages, and fat yields are presented in two separate tables for each breed. Data for cows calving in the years

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3/ Kendrick, J. F. Standardizing Dairy Herd Improvement Association Records in Proving Sires. U.S. Dept. Agr., Agr. Res. Serv. ARS 52-1. 1955.

1961, 1962, 1963, and 1964 are in the first table for each breed, and data for cows calving in the years 1965, 1966, 1967, and 1968 are in the second table.

Averages for Ayrshire cows calving in different States are in tables 1 and 2. For example, table 1 shows that the 197 Ayrshire cows calving in Alabama in 1961 averages 6,690 pounds of milk, 3.76 percent fat, and 252 pounds of fat. The 199 Ayrshire cows calving in Alabama in 1962 averaged 7,021 pounds of milk, 3.78 percent fat, and 266 pounds of fat. Similar data for other breeds are in tables 3 through 12. Data for Guernseys are in tables 3 and 4; for Holsteins, in tables 5 and 6; for Jerseys, in tables 7 and 8; for Brown Swiss, in tables 9 and 10; and for Milking Shorthorns, in tables 11 and 12.

TABLE 1.--AVERAGE YIELDS OF OFFICIAL DHI COWS CODED AS AYRSHIRE BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 1				1 9 6 2				1 9 6 3				1 9 6 4			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	197	6,690	3.76	252	199	7,021	3.78	266	181	6,708	3.77	253	235	7,393	3.66	271
ALASKA	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ARIZ--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ARK---	19	7,748	3.68	285	25	6,985	3.57	251	34	9,151	3.54	324	19	9,870	3.56	352
CALIF--	...	...	...	...	...	...	...	...	1	10,660	4.49	479	228	12,918	3.89	503
COLO--	71	9,786	3.98	390	62	10,777	4.12	444	43	11,624	3.72	432	3	7,857	4.15	326
CONN--	854	10,170	4.01	408	891	10,637	4.01	426	821	10,666	4.02	429	865	10,814	4.02	435
DEL---	274	8,693	3.88	337	265	9,187	3.93	361	268	9,302	3.96	369	290	9,865	3.96	392
FLA---	110	9,837	3.70	363	180	9,152	3.66	335	158	8,907	3.56	316	239	9,943	3.64	362
GA----	165	9,285	3.87	358	201	9,650	3.80	366	205	9,834	3.82	375	289	9,664	3.88	375
HAWAII	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
IDAHO--	26	11,547	3.87	446	24	12,423	3.79	471	32	12,401	3.92	437	67	12,107	4.00	484
ILL---	349	9,891	4.05	420	523	10,141	3.99	405	558	10,530	3.93	414	570	11,006	3.97	437
IND---	455	9,926	3.81	378	480	10,239	3.81	390	498	10,688	3.75	405	431	10,588	3.82	404
IOWA--	757	9,741	3.92	382	1,012	9,715	3.86	375	908	10,399	3.83	398	1,022	10,493	3.84	403
KANS--	1,228	9,589	3.96	380	1,225	9,744	3.93	383	1,234	10,146	3.96	402	1,307	10,433	3.99	416
KY----	19	7,704	3.88	299	29	9,112	3.67	334	75	8,369	3.81	319	66	8,296	3.89	324
LA----	...	...	...	...	2	8,170	4.27	349	1	5,750	4.77	274	6	7,667	3.71	284
MAINE--	510	9,879	3.98	394	503	9,950	3.98	396	427	10,528	4.00	421	431	10,648	4.01	427
MD----	617	9,530	4.01	382	692	9,751	4.00	390	657	10,074	3.98	401	454	9,930	3.97	394
MASS--	1,165	10,338	4.02	416	1,237	10,674	4.01	429	1,151	10,808	3.99	431	1,145	11,321	3.99	452
MICH--	203	10,441	4.05	425	240	11,049	4.00	444	258	11,179	4.00	448	290	11,506	3.97	457
MINN--	506	9,285	3.95	367	651	9,113	3.90	356	644	9,864	3.85	380	779	10,135	3.88	394
MISS--	144	7,565	3.81	288	208	8,325	3.70	308	258	8,045	3.79	305	354	8,306	3.77	313
MO----	3	9,913	3.66	362	1	16,060	3.55	570	3	11,363	3.48	396	16	8,939	3.79	339
MONT--	17	12,062	4.19	506	38	10,916	4.11	448	44	10,818	4.01	434	53	10,866	3.89	423
NEBR--	48	7,963	3.96	317	22	8,533	3.76	321	23	8,949	3.80	341	19	9,839	3.81	375
NEV---	1	17,410	3.38	589	...	...	...	...	1	18,220	3.49	636	1	16,740	3.51	588
N. H--	820	10,521	4.03	424	983	10,477	4.01	420	961	10,601	4.02	426	916	11,140	4.02	448
N. J--	40	9,698	4.10	398	30	10,034	4.03	405	41	9,831	4.05	398	30	10,036	4.08	409
N. MEX	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
N. Y--	4,102	10,268	3.91	402	4,732	10,680	3.91	418	4,863	10,829	3.92	425	5,029	11,212	3.91	439
N. C--	561	9,056	3.84	348	651	9,287	3.84	357	580	9,737	3.83	373	484	10,173	3.84	390
N. DAK	6	8,152	3.61	296	12	7,153	3.80	273	11	8,015	4.08	327	12	8,192	4.03	330
OHIO--	677	9,930	3.81	378	910	10,385	3.87	402	1,426	10,960	3.89	426	1,618	11,202	3.88	435
OKLA--	211	10,316	4.02	415	293	9,931	3.86	383	274	10,688	3.80	406	313	10,969	3.74	410
OREG--	192	9,692	3.55	344	271	8,885	3.59	319	280	9,660	3.52	340	256	9,283	3.72	346
PA----	2,457	9,726	4.02	391	3,368	10,178	4.05	412	3,358	10,353	4.07	421	3,272	10,431	4.06	424
R. I--	341	10,468	3.94	413	307	11,303	3.95	446	303	11,075	4.07	450	337	10,705	4.05	434
S. C--	72	8,708	3.60	313	35	9,856	3.70	365	30	10,613	3.75	398	30	10,225	3.65	371
S. DAK	34	9,828	3.88	382	66	10,262	3.90	401	95	10,321	3.88	400	125	10,017	3.90	392
TENN--	1	9,530	3.79	361	58	9,241	3.88	358	115	10,261	3.86	395	271	10,596	3.87	410
TEX---	141	9,726	3.75	364	175	9,455	3.62	342	123	9,773	3.65	356	85	10,554	3.67	388
UTAH--	21	10,120	3.85	389	43	8,667	3.92	339	40	9,451	3.84	363	21	10,105	3.96	400
VT----	1,866	10,145	3.94	400	1,872	10,456	3.96	414	1,816	10,544	3.92	413	1,923	10,901	3.93	428
VA----	499	8,946	3.93	351	531	9,532	3.95	376	551	10,001	3.92	392	629	10,154	3.93	399
WASH--	188	10,931	4.04	441	261	11,108	3.93	437	261	11,459	4.00	458	297	10,776	4.01	432
W. VA--	150	9,322	3.96	369	170	9,667	3.97	384	159	10,439	3.94	412	173	10,424	3.95	412
WIS---	517	9,681	3.95	383	545	9,879	3.94	389	530	10,102	3.92	396	608	10,391	3.96	411
WYO---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
U. S.-	20,634	9,877	3.94	390	24,023	10,162	3.94	400	24,300	10,436	3.94	411	25,608	10,693	3.94	421

TABLE 2.--AVERAGE YIELDS OF OFFICIAL DHI COWS CODED AS AYRSHIRE BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 5				1 9 6 6				1 9 6 7				1 9 6 8			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	313	8,112	3.66	297	281	9,124	3.62	331	236	9,461	3.60	340	179	10,349	3.53	366
ALASKA	...	...	...	...	1	12,610	4.25	536	...	...	...	...	...	...	...	...
ARIZ--	...	...	...	...	1	8,510	3.25	277	...	...	...	...	44	12,488	3.71	464
ARK---	11	10,289	3.50	362	10	12,868	3.78	487	8	13,765	3.61	496	5	12,314	3.45	425
CALIF--	283	13,288	3.77	500	263	13,874	3.83	532	269	13,207	3.86	509	302	13,280	3.89	516
COLO--	28	10,023	3.87	388	70	10,477	4.01	420	86	10,581	3.92	413	90	11,085	3.90	431
CONN--	723	11,095	3.99	442	752	11,164	3.99	446	777	11,204	3.99	447	731	11,820	3.92	464
DEL---	252	10,157	3.96	402	274	10,000	3.96	396	256	9,634	4.04	390	205	9,684	4.11	399
FLA---	495	9,749	3.66	357	402	9,937	3.51	348	368	10,380	3.49	362	388	10,445	3.64	380
GA----	300	9,930	3.92	389	321	10,506	3.98	419	324	10,817	3.97	430	268	10,403	3.87	403
HAWAII	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
IDAH0-	66	11,275	3.83	431	42	12,548	4.00	502	49	12,418	3.96	492	63	12,134	3.89	473
ILL---	554	11,142	3.93	437	518	11,269	3.92	442	661	11,245	3.85	434	744	11,215	3.86	433
IND---	359	10,917	3.79	413	330	11,036	3.85	425	312	11,056	3.84	425	204	11,186	3.83	428
IOWA--	1,055	10,607	3.84	407	1,166	10,857	3.88	421	1,204	11,277	3.84	433	1,220	11,459	3.79	434
KANS--	1,448	10,488	3.94	414	1,284	10,640	3.95	420	1,203	10,826	3.94	427	1,232	11,009	3.94	434
KY----	80	8,093	3.87	314	85	9,680	3.75	363	79	10,158	3.90	397	58	11,405	4.06	463
LA----	7	7,450	3.59	269	27	8,817	3.59	317	27	8,764	3.63	317	85	9,447	3.54	334
MAINE--	319	10,660	3.95	421	272	10,682	3.97	424	254	11,037	3.96	438	213	11,242	3.96	446
MD----	451	10,630	4.02	427	545	10,938	4.03	441	568	10,724	3.96	425	596	10,868	3.97	431
MASS--	1,032	11,492	4.01	461	1,068	11,330	4.02	456	931	10,945	3.97	434	925	11,333	3.99	452
MICH--	237	11,784	3.96	467	153	11,740	3.83	449	141	11,584	3.88	449	162	11,319	3.85	436
MINN--	805	9,467	3.88	368	688	9,942	3.91	389	675	10,285	3.90	401	721	10,023	3.89	390
MISS--	406	8,195	3.84	315	503	8,978	3.80	341	607	9,758	3.76	367	607	9,548	3.72	354
MO----	7	7,316	3.76	275	11	8,146	3.79	309	11	8,179	3.82	313	22	9,385	3.72	350
MONT--	60	10,899	4.03	439	46	11,383	4.07	464	20	11,389	3.96	451	28	13,200	3.72	491
NERR--	37	9,145	3.85	351	37	9,328	3.85	360	113	9,864	3.90	385	165	9,465	3.98	377
NEV---	1	11,450	3.70	424	...	...	...	...	...	...	...	...	13	13,932	3.41	476
N. H--	881	11,345	4.03	457	806	11,210	4.02	451	846	11,498	3.93	452	775	12,009	3.90	468
N. J--	44	10,850	4.04	438	62	11,057	4.00	441	62	10,310	3.86	397	37	11,317	3.83	433
N. MEX	...	...	...	...	1	11,270	3.74	421	13	8,738	3.83	332	9	10,384	3.74	389
N. Y--	4,699	11,461	3.90	447	4,570	11,468	3.91	449	4,665	11,473	3.92	450	4,542	11,720	3.91	458
N. C--	457	10,513	3.87	407	400	10,862	3.82	415	356	11,153	3.78	421	320	11,368	3.80	432
N. DAK	10	8,441	3.87	327	4	9,077	3.81	346	5	10,438	3.61	377	...	...	...	...
OHIO--	1,689	11,017	3.86	425	1,496	11,157	3.90	435	1,541	10,945	3.91	428	1,476	10,945	3.90	427
OKLA--	322	11,271	3.74	422	322	11,252	3.76	423	439	10,808	3.78	408	479	10,945	3.85	422
OREG--	254	9,461	3.92	371	223	10,279	3.77	388	350	11,450	3.87	443	296	11,587	3.89	450
PA----	3,165	10,305	4.05	417	2,861	10,676	4.05	432	2,799	10,515	4.03	424	2,399	10,842	4.01	435
R. I--	384	10,491	4.02	422	233	10,332	3.90	403	260	11,113	3.94	438	232	11,163	3.81	426
S. C--	42	9,762	3.70	361	36	10,151	3.65	370	26	10,740	3.85	413	16	12,057	3.61	435
S. DAK	133	10,001	3.98	399	117	10,308	3.98	410	95	10,231	3.94	403	94	10,496	3.79	398
TENN--	296	10,784	3.90	421	373	11,308	3.91	441	403	11,167	3.85	430	223	9,954	3.97	395
TEX---	190	9,269	3.74	347	137	9,519	3.69	351	63	12,077	3.55	429	67	12,657	3.59	455
UTAH--	38	10,283	3.73	382	33	11,039	3.58	391	38	11,054	3.62	400	32	11,419	3.72	424
VT----	1,889	11,325	3.90	441	1,691	11,368	3.90	444	1,733	11,379	3.89	443	1,706	11,772	3.90	459
VA----	691	10,041	3.93	395	661	10,613	3.97	421	592	10,830	3.95	428	565	11,396	3.89	444
WASH--	396	11,126	4.01	446	459	11,132	3.99	444	430	11,594	3.99	463	514	11,582	3.97	460
W. VA-	161	10,057	3.86	388	189	9,990	3.89	389	220	10,111	3.92	397	205	10,483	3.87	405
WIS---	583	10,232	3.98	407	565	10,420	3.97	413	532	10,523	3.89	409	546	10,657	3.84	409
WYO---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
U. S.-	25,653	10,749	3.92	422	24,389	10,936	3.93	429	24,647	11,007	3.91	430	23,803	11,219	3.90	437

TABLE 3.--AVERAGE YIELDS OF OFFICIAL OHI COWS CODED AS GUERNSEY BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 1				1 9 6 2				1 9 6 3				1 9 6 4			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	1,420	7,197	4.35	313	1,485	7,313	4.39	321	1,724	7,549	4.44	335	1,843	7,908	4.35	344
ALASKA	1	9,140	4.78	437	...	...	...	...	...	...	...	...	...	...	...	...
ARIZ--	339	10,232	4.57	468	527	9,926	4.46	443	570	9,898	4.46	441	475	10,209	4.45	454
ARK---	386	7,539	4.40	332	399	7,604	4.32	329	400	8,241	4.37	360	385	8,609	4.31	371
CALIF--	1,346	10,102	4.78	483	1,301	10,562	4.69	495	1,419	10,457	4.67	488	2,100	10,671	4.67	498
COLO--	474	8,833	4.72	417	568	8,681	4.71	409	597	8,795	4.59	404	609	9,034	4.62	417
CONN--	2,984	9,613	4.75	457	3,262	9,983	4.78	478	3,218	10,065	4.78	481	3,194	10,383	4.78	497
DEL---	659	8,276	4.57	379	670	8,675	4.61	401	604	9,118	4.67	427	578	9,015	4.64	419
FLA---	1,888	7,903	4.40	348	2,493	7,995	4.44	355	3,066	8,311	4.38	364	3,729	8,437	4.35	367
GA----	1,578	7,635	4.57	349	1,647	7,891	4.52	357	1,693	8,155	4.59	375	1,882	8,522	4.56	389
HAWAII	...	...	...	...	...	...	...	...	2	10,645	3.86	411	2	8,295	3.46	287
IDAHO--	843	9,296	4.69	436	912	9,598	4.69	450	1,065	9,347	4.65	435	1,044	9,294	4.60	427
ILL---	3,784	8,844	4.76	421	4,138	8,943	4.75	425	4,230	9,392	4.75	447	4,186	9,448	4.77	450
IND---	5,515	8,858	4.76	422	5,561	9,042	4.79	433	5,471	9,504	4.79	456	5,582	9,716	4.76	463
IOWA--	3,788	8,391	4.72	397	4,362	8,443	4.72	398	3,768	8,837	4.68	414	3,782	9,059	4.68	425
KANS--	998	8,186	4.84	397	1,110	8,403	4.79	403	1,050	8,884	4.79	426	1,252	9,000	4.83	434
KY----	632	7,976	4.66	371	798	7,935	4.61	366	959	7,945	4.68	372	1,152	8,159	4.63	378
LA----	528	7,757	4.55	353	773	7,555	4.44	335	809	7,703	4.42	341	927	7,768	4.37	340
MAINE--	1,953	9,069	4.69	426	2,040	9,283	4.69	436	1,927	9,419	4.73	445	1,779	9,328	4.70	438
MD----	3,882	8,342	4.73	395	4,695	8,608	4.77	411	4,593	8,920	4.77	425	3,810	8,936	4.75	424
MASS--	2,405	9,172	4.71	432	2,365	9,547	4.72	451	2,191	9,586	4.71	452	2,011	9,972	4.69	467
MICH--	4,874	8,949	4.75	425	5,094	9,193	4.77	439	4,667	9,410	4.77	449	4,404	9,652	4.77	461
MINN--	4,377	8,576	4.75	407	5,083	8,435	4.75	401	5,023	8,804	4.72	416	5,920	9,065	4.73	429
MISS--	863	7,854	4.48	352	1,149	7,710	4.39	338	1,643	7,134	4.42	315	2,233	7,327	4.38	321
MO----	1,335	8,823	4.69	414	1,257	9,044	4.71	426	1,357	9,271	4.72	438	1,623	9,333	4.64	433
MONT--	75	8,425	5.04	425	35	9,072	4.92	446	...	...	...	...	18	13,454	4.94	663
NEBR--	878	8,599	4.84	416	1,183	8,183	4.77	390	1,063	8,627	4.75	410	1,165	8,617	4.78	412
NEV---	9	9,116	4.19	382	7	9,083	3.97	360	13	10,544	4.20	442	12	10,910	4.15	452
N. H--	954	8,956	4.59	411	1,033	8,830	4.57	403	910	8,730	4.59	401	774	9,365	4.59	430
N. J--	2,382	9,160	4.83	443	2,469	9,712	4.84	470	2,738	9,834	4.90	482	2,877	9,717	4.84	471
N. MEX	387	9,835	4.67	459	428	10,094	4.67	471	359	9,793	4.55	446	302	9,299	4.58	426
N. Y--	9,006	9,010	4.65	419	9,476	9,326	4.66	435	9,379	9,373	4.68	438	9,062	9,670	4.66	451
N. C--	4,282	7,962	4.63	369	4,593	8,220	4.64	382	4,015	8,452	4.67	395	3,694	8,594	4.68	402
N. OAK	178	8,308	4.80	399	203	8,308	4.77	397	193	8,384	4.82	404	169	8,591	4.75	409
OHIO--	5,194	9,084	4.66	424	6,051	9,187	4.68	430	6,862	9,524	4.70	448	7,328	9,584	4.67	448
OKLA--	690	8,096	4.57	370	854	7,801	4.60	359	613	8,187	4.57	374	852	8,152	4.38	357
OREG--	2,675	9,374	4.72	443	2,448	9,570	4.73	453	2,463	9,648	4.70	454	1,815	9,834	4.67	460
PA----	13,736	8,704	4.71	410	18,816	9,102	4.76	433	18,198	9,161	4.76	436	17,782	9,262	4.75	440
R. I--	75	10,024	4.55	456	83	9,470	4.85	460	77	8,928	4.86	434	112	9,452	4.82	457
S. C--	3,741	7,597	4.48	341	4,659	7,803	4.49	350	4,718	8,043	4.49	362	5,110	8,218	4.49	369
S. DAK	126	7,942	4.62	367	134	8,081	4.50	364	125	8,342	4.44	371	122	9,206	4.39	404
TENN--	1,072	8,283	4.73	392	1,644	8,148	4.71	384	1,649	8,250	4.64	383	2,359	8,543	4.57	390
TEX---	672	8,506	4.45	379	683	8,381	4.40	369	628	8,637	4.35	376	554	8,897	4.41	393
UTAH--	466	9,120	4.61	420	566	9,296	4.57	425	490	9,273	4.63	429	447	9,188	4.63	426
VT----	1,501	8,867	4.63	411	1,558	9,146	4.63	424	1,481	9,313	4.62	431	1,445	9,500	4.60	438
VA----	6,436	8,596	4.72	406	6,583	8,700	4.69	409	5,914	8,981	4.71	423	6,158	8,977	4.70	422
WASH--	3,215	9,722	4.76	463	3,609	9,862	4.77	471	3,357	9,927	4.78	475	2,889	10,006	4.77	478
W. VA-	599	7,650	4.60	352	504	8,172	4.64	379	494	8,451	4.58	387	476	8,635	4.59	397
WIS---	8,465	8,774	4.71	413	8,793	8,875	4.69	417	9,764	9,093	4.69	426	10,815	9,234	4.70	434
WYO---	17	9,250	4.73	437	28	8,870	4.68	415	20	9,710	4.89	474	28	10,535	4.75	500
U. S.--	113,683	8,718	4.69	409	128,129	8,895	4.70	418	127,569	9,082	4.69	427	130,867	9,208	4.68	431

TABLE 4.--AVERAGE YIELDS OF OFFICIAL DHI COWS CODED AS GUERNSEY BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 5				1 9 6 6				1 9 6 7				1 9 6 8			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	1,768	8,055	4.32	348	1,635	8,262	4.30	356	1,339	8,423	4.23	357	1,186	8,716	4.28	373
ALASKA	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ARIZ--	341	11,264	4.46	502	411	11,298	4.39	495	722	11,351	4.17	474	780	11,376	4.26	485
ARK---	328	8,910	4.40	392	233	9,722	4.47	434	231	10,026	4.46	447	341	9,305	4.40	409
CALIF--	2,789	10,607	4.63	491	2,544	10,706	4.57	489	2,852	11,028	4.59	506	3,663	10,913	4.57	498
COLO--	538	8,836	4.65	411	446	9,141	4.65	425	480	9,527	4.63	441	589	10,050	4.63	465
CONN--	2,788	10,321	4.76	491	2,601	10,251	4.73	485	2,385	10,128	4.70	477	2,241	10,274	4.67	480
DEL---	490	9,007	4.66	421	474	8,726	4.70	411	453	8,425	4.67	393	401	8,296	4.57	379
FLA---	4,247	8,445	4.33	366	3,824	8,386	4.27	358	3,581	8,835	4.29	379	3,316	8,788	4.31	379
GA----	1,951	8,875	4.56	405	1,882	9,021	4.54	410	1,879	9,297	4.59	427	1,830	9,692	4.58	445
HAWAII	...	...	...	...	1	10,980	3.65	401	3	9,397	3.89	366	3	9,810	3.83	376
IDAHO-	1,546	9,673	4.62	447	1,594	10,068	4.60	463	1,694	9,867	4.59	453	1,701	10,031	4.58	459
ILL---	3,907	9,513	4.71	448	3,677	9,642	4.73	457	3,389	9,691	4.71	456	3,245	9,598	4.69	450
IND---	5,632	9,682	4.73	459	4,971	10,018	4.75	476	4,874	10,035	4.74	476	4,828	10,064	4.71	474
IOWA--	3,693	8,837	4.65	414	3,275	9,154	4.69	430	3,343	9,351	4.70	440	3,445	9,338	4.73	442
KANS--	1,268	9,121	4.77	436	1,216	9,360	4.76	446	1,516	9,242	4.78	442	1,461	9,360	4.79	448
KY----	1,001	8,484	4.67	396	974	8,543	4.67	400	881	8,896	4.65	414	868	9,059	4.59	416
LA----	1,306	8,306	4.34	361	1,602	8,526	4.35	371	1,736	8,615	4.45	384	1,469	8,879	4.41	392
MAINE-	1,375	9,527	4.71	448	1,246	9,315	4.67	435	1,124	9,165	4.61	422	941	9,527	4.56	435
MD----	3,182	9,191	4.78	440	3,452	9,262	4.80	445	3,284	9,115	4.77	435	3,180	9,336	4.78	446
MASS--	1,663	9,986	4.70	470	1,569	9,977	4.69	468	1,380	10,053	4.70	473	1,233	10,293	4.66	480
MICH--	3,742	9,845	4.75	468	3,423	10,053	4.78	481	3,391	9,925	4.78	475	3,030	10,317	4.78	494
MINN--	6,045	8,707	4.73	411	5,587	8,975	4.72	423	5,629	9,363	4.70	440	5,779	9,281	4.70	441
MISS--	2,619	7,907	4.37	346	2,626	8,223	4.48	369	2,751	8,371	4.48	376	2,658	8,918	4.43	356
MO----	1,962	9,197	4.60	423	2,054	9,454	4.58	433	2,279	9,713	4.60	447	2,459	9,631	4.58	441
MONT--	30	12,918	4.92	635	19	12,409	4.80	596	7	9,879	4.72	467	29	9,906	5.21	516
NEBR--	1,053	8,432	4.74	400	1,111	8,768	4.76	417	1,074	8,804	4.76	419	1,136	8,849	4.75	421
NEV---	5	11,666	3.91	456	4	9,492	4.00	380	3	9,613	4.14	398	2	9,130	4.59	419
N. H--	664	9,534	4.54	433	633	9,413	4.53	426	573	8,894	4.48	399	526	8,917	4.43	395
N. J--	2,388	9,878	4.79	473	2,255	9,710	4.81	467	2,094	9,750	4.77	465	1,839	9,812	4.77	468
N. MEX	644	10,330	4.53	468	1,605	10,766	4.43	477	1,589	11,547	4.32	499	1,806	11,568	4.16	481
N. Y--	7,541	9,829	4.68	460	6,921	9,818	4.70	462	6,523	9,854	4.69	463	5,984	10,100	4.68	473
N. C--	3,674	8,786	4.68	411	3,481	9,119	4.67	426	2,857	9,291	4.66	433	2,306	9,561	4.64	444
N. DAK	174	8,426	4.77	402	153	8,493	4.83	411	143	8,964	4.74	425	150	9,561	4.83	462
OHIO--	7,273	9,663	4.65	449	6,496	9,679	4.68	453	5,920	9,676	4.68	453	5,834	9,596	4.68	449
OKLA--	724	8,793	4.26	375	738	9,443	4.29	405	833	9,069	4.31	391	773	9,176	4.40	404
OREG--	1,939	9,838	4.63	456	1,967	10,214	4.63	473	2,702	10,321	4.63	478	2,970	10,276	4.62	474
PA----	16,967	9,472	4.73	448	15,413	9,541	4.73	452	14,485	9,369	4.73	443	12,112	9,574	4.70	451
R. I--	161	9,136	4.80	440	172	8,503	4.72	402	108	8,503	4.75	404	82	9,024	4.60	415
S. C--	5,240	8,676	4.48	389	4,827	9,131	4.51	412	4,829	9,335	4.55	424	4,654	9,730	4.54	442
S. DAK	87	8,224	4.51	371	82	8,781	4.66	409	65	9,442	4.63	437	69	9,548	4.59	438
TENN--	2,501	8,781	4.54	399	2,484	9,112	4.58	417	2,193	9,165	4.57	419	1,889	9,398	4.57	430
TEX---	637	8,585	4.46	383	641	8,405	4.38	368	573	8,905	4.35	387	627	8,690	4.36	378
UTAH--	329	8,743	4.58	401	294	9,403	4.57	430	248	9,065	4.42	400	266	8,967	4.49	403
VT----	1,213	9,465	4.60	436	1,185	9,188	4.61	424	1,027	9,426	4.61	435	781	9,629	4.58	441
VA----	6,229	8,961	4.72	423	5,546	9,023	4.71	425	4,858	9,289	4.70	437	4,347	9,452	4.69	444
WASH--	2,633	10,268	4.74	487	2,813	10,498	4.74	497	3,300	10,493	4.70	494	3,452	10,802	4.71	509
W. VA-	515	8,830	4.56	402	568	9,046	4.62	418	579	9,101	4.63	422	585	8,824	4.62	408
WIS---	10,264	9,144	4.70	430	9,907	9,393	4.71	442	9,701	9,515	4.68	445	9,251	9,596	4.68	449
WYO---	16	10,096	4.76	481	20	10,651	4.61	491	20	10,514	4.61	485	29	11,263	4.58	515
U. S.-	126,682	9,282	4.66	433	120,652	9,449	4.66	440	117,500	9,551	4.65	444	112,146	9,712	4.63	450

TABLE 5.--AVERAGE YIELDS OF OFFICIAL OHI COWS COOED AS HOLSTEIN BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 1				1 9 6 2				1 9 6 3				1 9 6 4			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	EAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	EAT
ALA----	6,008	10,152	3.51	356	7,058	10,399	3.50	363	9,329	10,582	3.52	372	12,351	11,080	3.51	388
ALASKA	24	13,960	3.63	506	31	13,050	3.51	458	62	12,654	3.55	450	98	12,111	3.56	431
ARIZ--	2,156	14,215	3.45	490	2,053	13,632	3.46	471	2,269	13,521	3.44	465	2,764	14,011	3.40	476
ARK---	1,540	10,290	3.41	351	2,023	9,982	3.40	339	2,069	11,087	3.39	376	2,249	12,002	3.32	398
CALIF--	2,937	16,185	3.53	572	4,165	16,443	3.51	578	16,326	15,787	3.55	560	41,629	15,697	3.56	559
COLO--	1,733	13,397	3.57	479	2,458	13,546	3.51	476	2,978	13,941	3.44	479	3,789	14,244	3.49	497
CONN--	8,770	12,596	3.65	497	11,031	14,156	3.67	519	12,621	14,196	3.68	523	15,389	14,758	3.70	546
DEL---	2,286	11,936	3.60	430	2,769	12,742	3.66	467	2,933	13,153	3.66	482	3,328	13,095	3.68	482
FLA---	1,058	11,863	3.56	422	1,459	11,884	3.59	426	2,606	11,810	3.54	418	4,445	12,108	3.47	420
GA----	6,456	10,661	3.60	384	8,048	11,344	3.59	408	10,049	11,751	3.59	422	15,732	12,209	3.56	435
HAWAII	...	...	...	...	...	...	...	...	85	14,768	3.37	497	242	14,107	3.29	464
IDAHO--	3,544	13,855	3.62	501	3,672	13,965	3.58	500	5,461	13,694	3.59	492	8,762	13,567	3.60	488
ILL----	28,120	12,499	3.68	460	30,919	12,697	3.68	468	34,976	13,238	3.64	483	39,797	13,371	3.67	491
IND---	20,014	12,506	3.64	455	22,574	12,807	3.64	466	25,623	13,373	3.63	486	29,343	13,490	3.64	491
IOWA--	28,600	12,107	3.58	433	36,077	12,005	3.58	430	36,874	12,758	3.54	452	44,335	13,021	3.55	462
KANS--	13,951	11,998	3.62	434	15,982	12,158	3.58	436	18,846	12,845	3.58	459	24,841	12,984	3.59	467
KY----	5,743	11,958	3.57	427	7,262	12,145	3.56	432	8,903	12,322	3.56	439	12,027	12,267	3.55	436
LA----	492	10,975	3.51	385	1,088	10,519	3.39	357	1,377	10,785	3.41	367	1,573	11,357	3.35	380
MAINE--	10,696	12,906	3.71	479	11,771	13,294	3.72	495	12,018	13,624	3.74	509	13,026	13,670	3.73	510
MD----	16,450	11,993	3.68	441	23,186	12,289	3.70	455	26,970	12,496	3.69	461	24,680	12,596	3.70	466
MASS--	12,720	13,075	3.71	485	14,280	13,469	3.71	500	15,744	13,340	3.70	494	16,530	14,006	3.70	519
MICH--	48,173	12,644	3.58	452	54,549	13,029	3.58	467	63,455	13,397	3.59	481	68,207	13,582	3.59	488
MINN--	44,658	12,529	3.57	447	56,598	12,264	3.58	439	58,619	12,820	3.56	456	78,348	13,209	3.58	473
MISS--	883	10,500	3.56	374	1,189	9,927	3.52	350	2,268	10,024	3.55	356	4,755	10,172	3.53	359
MO----	4,896	12,239	3.65	447	5,749	12,510	3.62	453	7,242	12,902	3.60	464	12,223	12,890	3.59	463
MONT--	961	12,978	3.50	454	997	13,107	3.47	455	1,055	13,615	3.45	470	1,171	13,593	3.45	469
NEBR--	4,618	12,051	3.61	436	6,593	11,799	3.59	424	7,247	12,352	3.58	442	10,130	12,889	3.60	464
NEV---	645	12,708	3.25	413	874	13,334	3.28	438	956	13,488	3.30	446	1,041	14,094	3.30	466
N. H--	5,587	13,026	3.78	492	7,600	13,006	3.78	492	8,476	13,218	3.77	499	8,761	13,788	3.76	519
N. J--	9,654	12,737	3.64	464	11,494	13,582	3.66	497	13,258	13,651	3.67	501	19,154	13,731	3.64	501
N. MEX	165	14,007	3.50	490	299	14,259	3.54	505	1,158	15,344	3.43	525	1,488	14,858	3.44	511
N. Y--	104,580	13,176	3.56	469	126,560	13,823	3.55	491	142,792	13,942	3.57	498	155,700	14,396	3.55	511
N. C--	19,965	11,304	3.56	403	24,315	11,746	3.57	420	27,021	12,533	3.56	446	30,693	12,875	3.56	458
N. DAK	3,744	11,921	3.62	431	4,259	11,544	3.63	419	4,508	11,777	3.59	423	4,791	11,917	3.60	429
OHIO--	23,508	13,006	3.55	462	32,419	13,387	3.56	476	49,325	13,730	3.59	492	59,573	13,748	3.58	493
OKLA--	3,127	11,604	3.58	415	3,992	11,837	3.48	412	5,165	12,365	3.44	426	7,414	12,592	3.41	429
OREG--	5,537	13,029	3.60	469	5,967	13,515	3.58	483	6,131	13,890	3.58	498	6,327	14,134	3.60	508
PA----	71,427	12,782	3.69	471	105,568	13,484	3.70	500	110,921	13,660	3.72	508	121,412	13,765	3.72	512
R. I--	1,101	12,602	3.68	465	1,208	13,242	3.72	493	1,384	13,377	3.76	504	1,453	13,886	3.75	521
S. C--	6,385	10,786	3.51	378	7,501	11,161	3.53	394	8,537	11,599	3.58	415	10,230	11,930	3.58	427
S. DAK	1,772	12,411	3.46	430	2,630	11,673	3.50	409	4,721	12,146	3.47	422	5,609	12,545	3.46	435
TENN--	1,931	12,268	3.60	442	3,680	11,691	3.62	423	5,860	11,709	3.62	424	11,506	11,979	3.63	435
TEX---	8,653	11,602	3.49	405	9,583	11,877	3.45	410	10,896	12,165	3.43	417	14,378	12,603	3.46	436
UTAH--	7,827	13,864	3.53	489	9,893	13,783	3.52	486	10,632	13,680	3.54	484	11,990	13,714	3.55	487
VT----	13,458	12,724	3.65	465	15,785	12,986	3.68	478	18,848	13,243	3.66	485	22,481	13,713	3.65	500
VA----	28,807	12,150	3.63	441	32,387	12,350	3.62	447	33,388	12,971	3.60	467	40,345	13,086	3.59	470
WASH--	9,173	14,101	3.59	506	11,206	14,459	3.57	517	14,931	14,509	3.59	521	17,595	14,583	3.59	523
W. VA-	2,869	11,262	3.58	403	3,115	11,622	3.61	419	3,234	12,204	3.61	441	3,904	12,235	3.60	441
WIS---	60,048	12,811	3.62	464	67,844	13,046	3.61	471	78,850	13,500	3.59	484	90,572	13,737	3.61	496
WYO---	189	13,906	3.42	475	203	13,984	3.40	476	242	13,419	3.43	461	194	14,632	3.42	500
U. S.-	667,768	17,620	3.61	455	822,118	12,959	3.61	468	949,241	13,322	3.60	480	1,138,375	13,570	3.60	489

TABLE 6.--AVERAGE YIELDS OF OFFICIAL DHI COWS CODED AS HOLSTEIN BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 5				1 9 6 6				1 9 6 7				1 9 6 8			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	14,276	11,253	3.52	397	14,947	11,673	3.52	411	16,655	12,054	3.51	424	17,960	12,323	3.52	434
ALASKA	98	12,822	3.61	464	87	13,298	3.63	483	84	13,625	3.47	472	84	13,623	3.50	477
ARIZ---	3,126	14,432	3.43	495	3,797	14,863	3.46	514	4,545	15,122	3.35	506	5,285	15,463	3.33	516
ARK---	2,322	12,508	3.31	414	2,520	12,996	3.36	436	3,195	13,068	3.35	437	3,414	12,989	3.34	434
CALIF--	52,464	15,773	3.57	564	53,896	15,933	3.55	566	55,879	15,990	3.55	567	72,539	16,308	3.56	580
COLO--	4,723	14,027	3.53	496	5,157	14,400	3.52	506	6,033	14,558	3.53	514	9,939	14,776	3.54	523
CONN--	15,437	14,841	3.67	545	17,438	14,689	3.69	543	17,912	14,800	3.67	543	18,611	15,126	3.62	548
DEL---	3,360	13,390	3.66	491	3,178	13,430	3.70	497	3,276	13,191	3.71	489	3,587	13,471	3.72	501
FLA---	6,713	12,214	3.47	424	8,123	12,213	3.41	417	8,268	12,777	3.38	431	8,326	12,566	3.37	423
GA---	18,848	12,236	3.57	437	20,053	12,572	3.59	451	20,881	12,904	3.61	466	21,334	13,127	3.61	473
HAWAII	812	14,176	3.21	454	2,434	13,297	3.20	425	3,043	12,311	3.20	394	1,973	12,488	3.15	393
IDAHO-	13,055	13,515	3.59	485	12,971	14,292	3.58	512	17,689	14,088	3.58	504	19,703	14,133	3.59	508
ILL---	40,779	13,401	3.65	489	41,298	13,562	3.66	497	39,909	13,610	3.66	499	41,315	13,781	3.67	506
IND---	29,444	13,646	3.63	495	25,579	13,945	3.65	510	29,717	13,852	3.66	506	28,567	13,771	3.65	503
IOWA--	46,855	12,724	3.56	453	45,319	13,069	3.58	468	47,118	13,340	3.58	478	49,666	13,191	3.61	476
KANS--	28,187	13,021	3.57	465	28,981	13,499	3.58	484	31,763	13,677	3.59	491	33,323	13,782	3.59	495
KY----	14,272	12,435	3.55	441	14,723	12,677	3.56	451	15,203	12,961	3.55	460	15,943	13,104	3.54	464
LA----	1,851	11,656	3.36	392	2,476	11,957	3.29	393	2,684	12,067	3.37	406	3,524	12,760	3.37	430
MAINE--	12,761	14,011	3.70	519	14,181	13,881	3.72	516	15,036	13,897	3.67	511	14,953	14,240	3.66	521
MD----	22,122	12,980	3.74	486	27,357	13,097	3.76	492	27,894	13,136	3.73	490	30,067	13,545	3.72	504
MASS--	15,432	14,187	3.72	527	15,382	14,044	3.75	526	15,228	13,997	3.73	522	15,405	14,444	3.72	537
MICH--	66,689	13,605	3.58	487	62,918	13,604	3.58	488	61,073	13,520	3.60	487	62,562	13,658	3.60	492
MINN--	88,898	12,732	3.61	460	91,996	13,184	3.62	477	99,274	13,705	3.61	494	106,892	13,648	3.61	493
MISS--	6,671	10,897	3.51	383	7,673	11,406	3.50	400	8,833	11,890	3.48	414	9,697	12,262	3.49	428
MO----	14,993	13,085	3.57	467	16,919	13,381	3.56	477	19,218	13,487	3.54	478	21,890	13,340	3.57	476
MONT--	1,568	13,299	3.45	458	1,764	14,122	3.39	479	1,541	14,313	3.42	489	1,656	14,267	3.46	494
NEBR--	11,969	12,588	3.57	450	12,798	13,171	3.57	471	14,873	13,203	3.58	473	16,499	13,062	3.62	473
NEV---	1,025	14,838	3.33	494	756	15,140	3.35	508	731	14,956	3.32	497	903	15,327	3.36	515
N. H--	8,691	13,930	3.74	521	9,121	14,000	3.74	523	9,372	13,816	3.72	514	8,980	14,094	3.70	522
N. J--	19,427	14,224	3.64	518	20,236	14,362	3.64	523	20,454	13,927	3.64	508	19,778	14,265	3.63	519
N. MEX	1,845	14,610	3.41	498	2,635	14,606	3.39	496	3,140	14,709	3.39	499	5,393	14,699	3.39	498
N. Y--	151,614	14,539	3.56	517	157,886	14,515	3.57	519	165,608	14,435	3.57	516	168,743	14,723	3.56	524
N. C--	33,557	12,988	3.58	464	34,147	13,469	3.58	482	36,012	13,691	3.60	492	37,823	13,948	3.61	504
N. DAK	4,269	11,949	3.60	430	4,457	12,351	3.63	449	4,765	12,787	3.56	456	5,004	12,978	3.62	470
OHIO--	62,266	13,865	3.57	495	56,437	13,990	3.59	503	62,865	13,807	3.61	498	63,883	13,691	3.62	496
OKLA--	8,587	12,680	3.43	435	9,968	13,167	3.44	453	12,659	12,981	3.47	450	15,244	13,137	3.49	459
OREG--	8,612	14,291	3.61	516	8,977	14,654	3.62	530	13,128	14,682	3.64	534	13,782	14,568	3.68	536
PA----	132,211	13,979	3.70	518	126,796	14,097	3.72	525	130,603	13,798	3.73	514	116,103	14,177	3.71	526
R. I--	1,385	13,865	3.71	515	1,436	14,266	3.65	521	1,532	13,893	3.68	511	1,430	14,191	3.63	516
S. C--	11,218	12,353	3.60	444	11,704	12,740	3.62	461	12,839	13,025	3.64	473	14,258	13,159	3.62	476
S. DAK	5,326	12,648	3.50	443	5,087	13,551	3.53	479	5,407	13,874	3.56	494	5,915	13,644	3.57	488
TENN--	14,515	12,091	3.62	438	15,768	12,267	3.60	442	16,264	12,657	3.60	456	18,067	12,898	3.61	465
TEX---	16,916	12,655	3.47	440	18,166	12,926	3.44	445	19,888	13,189	3.44	453	19,919	13,314	3.44	458
UTAH--	13,941	13,612	3.54	482	14,364	14,127	3.53	499	15,294	13,872	3.55	493	15,286	14,023	3.53	495
VT----	24,097	14,044	3.60	506	26,690	13,747	3.61	497	28,543	13,813	3.59	497	29,213	14,173	3.58	507
VA----	45,976	13,103	3.60	472	45,499	13,366	3.59	480	46,385	13,566	3.61	489	49,224	13,723	3.60	495
WASH--	19,397	14,677	3.58	526	20,551	14,852	3.58	532	28,227	14,896	3.59	534	33,507	15,135	3.60	546
W. VA-	5,166	12,259	3.60	441	6,320	12,757	3.59	458	6,816	13,119	3.62	474	7,838	13,340	3.62	483
WIS---	94,025	13,512	3.63	490	95,438	13,758	3.65	502	98,365	13,954	3.65	509	102,563	13,989	3.66	512
WYO---	178	15,830	3.47	550	177	16,244	3.38	549	175	15,068	3.33	502	167	14,043	3.40	477
U. S.-	1,221,969	13,601	3.60	490	1,246,581	13,790	3.61	498	1,325,896	13,850	3.61	500	1,387,737	14,032	3.61	506

TABLE 7.--AVERAGE YIELDS OF OFFICIAL DHI COWS CODED AS JERSEY BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

	1 9 6 1				1 9 6 2				1 9 6 3				1 9 6 4			
STATE	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	3,989	6,917	4.78	331	4,710	7,001	4.75	333	5,143	7,043	4.78	338	6,118	7,322	4.78	350
ALASKA	...	...	...	...	...	...	...	...	...	...	...	...	1	9,840	4.22	415
ARIZ---	142	8,329	4.72	393	101	8,803	4.82	425	50	7,843	4.88	382	45	7,233	4.74	343
ARK---	463	7,318	4.75	347	601	7,576	4.77	361	494	7,967	4.73	377	490	8,313	4.65	387
CALIF---	792	10,074	5.19	523	901	10,281	5.18	532	1,351	9,751	5.11	498	4,220	9,772	5.07	496
COLO---	289	7,810	5.23	409	390	7,764	5.28	410	406	7,956	5.17	411	356	7,893	5.26	415
CONN---	765	9,036	5.15	465	772	9,424	5.20	490	869	9,381	5.26	494	765	9,554	5.25	501
DEL---	116	8,079	5.06	409	85	8,493	4.94	419	73	8,723	5.02	438	79	8,632	5.16	446
FLA---	1,725	8,465	4.85	410	2,096	8,285	4.86	402	2,335	8,272	4.75	393	2,857	8,595	4.67	401
GA---	1,667	7,482	4.86	364	1,960	7,658	4.92	377	1,960	7,662	4.92	377	2,611	8,154	4.90	400
HAWAII	...	...	...	...	...	...	...	...	1	9,260	3.97	368	1	7,120	3.68	262
IDAHO---	986	8,832	5.26	465	1,123	8,706	5.22	454	1,323	8,504	5.20	442	1,267	8,430	5.18	437
ILL---	1,657	8,189	5.13	420	1,784	8,273	5.13	424	1,925	8,528	5.10	435	1,954	8,497	5.11	434
IND---	2,294	7,954	5.07	403	2,454	8,024	5.06	406	2,440	8,149	5.06	412	2,478	8,193	5.04	413
IOWA---	2,050	7,635	5.16	394	2,772	7,448	5.16	384	2,582	7,789	5.11	398	2,675	8,009	5.15	413
KANS---	761	7,834	5.23	410	810	7,985	5.18	414	925	8,108	5.09	413	1,183	8,258	5.12	423
KY----	1,666	7,786	4.96	386	2,088	7,712	4.95	382	2,142	7,736	4.97	385	2,431	7,798	4.99	389
LA----	390	7,473	4.95	371	615	7,496	4.87	366	622	6,545	4.74	311	745	6,920	4.60	319
MAINE---	1,939	8,643	5.11	442	2,060	8,812	5.14	453	1,871	9,060	5.14	466	1,910	9,039	5.14	465
MO----	848	7,709	5.17	398	958	7,559	5.20	393	869	7,558	5.19	392	793	7,314	5.22	382
MASS---	1,777	8,882	5.17	459	1,872	9,124	5.18	473	1,560	8,965	5.12	459	1,618	9,383	5.14	482
MICH---	3,003	7,986	5.14	410	3,145	8,240	5.18	427	3,419	8,350	5.18	432	3,331	8,346	5.18	432
MINN---	1,623	8,028	5.16	414	2,086	7,778	5.14	400	1,995	8,066	5.11	412	2,404	8,251	5.11	421
MISS---	1,569	7,358	4.85	358	1,843	7,320	4.83	354	2,644	7,103	4.77	339	3,263	7,274	4.79	349
MO----	1,206	8,323	5.11	426	1,308	8,360	5.13	429	996	8,560	5.10	437	1,405	8,590	5.14	441
MONT---	96	8,220	5.28	433	79	8,237	5.34	439	68	8,360	5.25	438	61	9,588	5.26	505
NEBR---	122	8,101	5.17	419	159	8,076	5.08	410	186	8,500	5.03	428	226	8,759	5.08	445
NEV---	210	10,507	5.25	552	306	9,957	5.13	511	436	10,067	5.14	518	598	10,304	4.98	514
N. H---	1,129	9,159	5.14	471	1,551	8,633	5.13	443	1,673	8,756	5.08	445	1,638	8,999	5.06	455
N. J---	505	8,935	5.27	471	825	9,778	5.23	511	591	9,839	5.09	501	707	9,605	5.03	483
N. MEX	166	8,124	5.02	408	130	8,058	5.03	405	99	8,569	4.87	417	105	9,667	4.77	461
N. Y---	5,212	8,281	5.08	421	5,844	8,653	5.13	444	5,945	8,761	5.14	451	6,012	8,989	5.14	462
N. C---	2,524	7,489	4.91	368	2,885	7,596	4.90	373	2,866	7,797	4.89	382	3,049	8,105	4.90	397
N. OAK	27	7,293	5.03	367	17	6,994	5.25	366	39	6,532	5.38	351	45	6,167	5.42	334
OHIO---	4,994	8,194	5.10	418	5,940	8,395	5.11	429	6,848	8,504	5.11	434	7,915	8,544	5.09	435
OKLA---	517	7,748	5.13	398	654	7,765	4.94	384	733	7,721	4.97	384	786	7,918	4.93	391
OREG---	4,677	8,925	5.11	456	4,800	9,181	5.12	471	3,924	9,208	5.10	469	3,198	9,398	5.08	478
PA----	3,981	8,376	5.13	430	5,454	8,734	5.16	451	5,363	8,795	5.15	453	5,236	8,902	5.12	456
R. I---	114	8,078	5.06	409	142	7,694	5.26	404	123	8,791	5.17	455	88	9,464	5.18	491
S. C---	1,166	7,906	5.01	396	1,706	8,365	5.05	423	2,321	8,426	5.04	425	2,559	8,708	5.05	440
S. DAK	53	7,450	5.29	394	66	7,054	5.03	355	119	7,762	5.16	401	121	7,930	5.28	419
TENN---	2,185	7,875	5.01	395	3,143	8,044	4.96	399	3,998	7,890	4.95	391	5,864	7,959	4.87	388
TEX---	3,504	7,751	4.85	377	3,538	7,929	4.82	383	3,354	7,887	4.78	377	3,719	8,161	4.75	388
UTAH---	907	8,264	4.97	410	1,059	8,217	4.97	408	1,089	8,157	4.98	405	1,067	8,071	4.97	401
VT----	6,094	8,690	5.09	443	6,190	8,753	5.12	449	6,437	8,929	5.09	455	6,324	9,133	5.10	466
VA----	1,475	8,198	5.13	420	1,645	8,158	5.15	420	1,384	8,864	5.10	452	1,387	8,855	5.12	454
WASH---	2,435	8,918	5.27	470	2,411	9,089	5.25	477	2,260	9,067	5.25	476	2,538	9,105	5.23	476
W. VA-	550	7,094	5.09	361	532	7,516	5.09	382	457	8,028	5.04	405	409	8,471	4.92	417
WIS---	2,074	8,071	5.22	421	2,218	8,182	5.17	423	2,215	8,394	5.14	432	2,566	8,613	5.13	442
WYO---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
U. S.-	76,434	8,180	5.07	415	87,828	8,294	5.07	421	90,523	8,352	5.05	422	101,218	8,506	5.03	428

TABLE 8.--AVERAGE YIELDS OF OFFICIAL OHI COWS CODED AS JERSEY BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 5				1 9 6 6				1 9 6 7				1 9 6 8			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	6,043	7,456	4.80	358	5,923	7,857	4.76	374	5,448	7,958	4.68	373	5,464	8,127	4.70	382
ALASKA	...	...	...	...	2	10,730	3.80	408	1	11,410	4.26	486	1	12,000	4.03	484
ARIZ---	122	9,325	4.65	433	106	10,877	4.69	511	388	9,951	4.73	471	671	9,792	4.62	453
ARK---	506	8,540	4.71	402	484	8,410	4.84	407	478	8,661	4.86	421	497	8,723	4.82	420
CALIF---	6,045	9,628	5.04	485	6,134	9,650	5.00	482	6,386	9,729	5.01	487	7,960	10,027	5.02	503
COLO---	385	7,804	5.21	406	385	7,888	5.21	411	369	8,310	5.12	425	625	8,256	5.16	426
CONN---	623	9,381	5.20	488	588	9,281	5.12	475	555	9,481	5.12	485	515	9,887	5.04	499
OEL---	82	8,375	4.98	417	79	8,681	4.99	434	115	8,360	5.02	420	138	8,286	4.96	411
FLA---	3,592	8,552	4.67	400	3,423	8,437	4.68	395	3,030	8,666	4.65	403	3,013	8,292	4.57	379
GA---	2,941	8,381	4.90	411	2,868	8,496	4.97	422	2,727	8,661	4.99	432	2,584	8,659	4.98	431
HAWAII	14	9,392	4.36	409	35	8,980	4.31	387	52	8,460	4.36	389	25	8,661	4.51	390
IDAHO---	1,700	8,427	5.13	433	1,751	8,805	5.09	448	2,266	8,552	5.10	436	2,158	8,601	5.13	441
ILL---	1,854	8,488	5.11	434	1,864	8,617	5.11	440	1,692	8,574	5.08	436	1,574	8,581	5.06	434
IND---	2,324	8,327	5.05	420	2,154	8,428	5.09	429	2,021	8,340	5.08	424	1,849	8,144	5.08	414
IOWA---	2,424	7,902	5.15	407	2,401	8,181	5.12	419	2,563	8,285	5.10	423	2,603	8,252	5.14	424
KANS---	1,305	8,373	5.11	428	1,143	8,488	5.11	434	1,129	8,573	5.15	442	994	8,704	5.08	442
KY---	2,646	7,996	5.00	400	2,703	8,234	5.03	414	2,621	8,366	5.01	419	2,414	8,522	4.99	426
LA---	996	7,304	4.62	339	1,247	7,840	4.65	366	1,511	8,012	4.70	377	1,624	8,168	4.62	378
MAINE---	1,779	9,447	5.07	479	1,744	9,291	5.07	471	1,833	9,382	4.99	469	1,775	9,569	4.94	472
MO---	701	7,595	5.26	399	811	7,726	5.28	408	702	7,803	5.28	412	587	8,143	5.25	427
MASS---	1,658	9,546	5.17	493	1,729	9,484	5.23	497	1,718	9,294	5.22	485	1,497	9,549	5.17	494
MICH---	2,956	8,377	5.17	433	2,756	8,420	5.21	439	2,408	8,329	5.20	433	2,486	8,365	5.24	438
MINN---	2,502	8,015	5.10	409	2,537	8,269	5.09	421	2,569	8,566	5.09	436	2,684	8,645	5.07	439
MISS---	3,885	7,569	4.76	361	3,955	7,765	4.80	373	4,244	7,936	4.79	380	4,319	8,223	4.79	394
MO---	1,910	8,629	5.10	440	2,016	8,907	5.09	453	2,340	9,039	5.07	459	2,349	8,900	5.06	451
MONT---	48	9,364	5.35	501	70	9,527	5.26	502	68	9,716	5.23	509	54	9,135	5.27	482
NEBR---	246	8,338	5.08	424	295	8,573	4.98	427	245	8,462	5.02	425	210	8,689	4.96	431
NEV---	608	10,337	4.92	508	609	10,238	4.90	502	633	10,414	4.89	509	738	10,197	4.91	501
N. H---	1,455	9,314	5.06	472	1,406	9,280	5.09	472	1,340	9,476	5.07	480	1,224	9,708	5.10	495
N. J---	858	10,224	5.06	518	801	9,924	5.07	504	709	10,183	5.04	514	704	10,404	5.02	523
N. MEX	138	10,760	4.52	487	130	10,901	4.40	481	135	10,086	4.47	453	148	9,228	4.64	430
N. Y---	5,404	9,118	5.12	467	5,291	9,056	5.13	465	5,244	8,982	5.11	459	4,917	9,194	5.09	468
N. C---	3,159	8,221	4.94	406	3,108	8,538	4.99	426	3,183	8,497	5.06	430	3,367	8,594	5.02	432
N. DAK	27	6,766	5.45	368	46	5,629	4.88	275	31	5,560	4.92	273	15	7,505	4.56	342
OHIO---	8,005	8,658	5.08	440	7,430	8,570	5.10	437	7,130	8,549	5.11	437	6,595	8,576	5.11	438
OKLA---	821	8,160	4.98	406	826	8,551	4.99	426	835	8,441	4.91	414	768	8,044	4.97	400
OREG---	3,436	9,378	5.06	474	3,165	9,698	5.06	491	4,546	9,475	5.06	479	4,879	9,501	5.10	485
PA---	5,166	8,984	5.11	459	4,901	8,885	5.13	455	4,892	8,765	5.11	448	4,233	9,028	5.08	458
R. I---	95	9,724	5.20	506	84	9,400	5.22	491	78	8,677	5.21	454	69	9,474	5.09	483
S. C---	2,826	8,638	5.02	434	3,005	9,052	5.02	455	3,104	9,260	5.08	471	3,614	9,368	5.10	478
S. OAK	139	7,966	5.26	419	129	8,372	5.28	442	126	8,698	5.35	465	131	8,430	5.28	445
TENN---	6,114	8,234	4.84	399	6,022	8,500	4.84	412	5,624	8,582	4.86	418	5,367	8,751	4.85	425
TEX---	4,281	8,097	4.83	391	4,435	8,252	4.79	395	4,363	8,428	4.80	405	3,862	8,446	4.73	400
UTAH---	1,234	8,356	4.96	414	1,074	8,747	4.91	429	1,158	8,444	4.96	418	1,328	8,571	4.94	423
VT---	6,051	9,145	5.08	465	5,980	9,009	5.10	459	6,237	9,011	5.06	456	6,016	9,182	5.04	462
VA---	1,518	8,610	5.11	440	1,509	8,790	5.10	448	1,576	8,815	5.06	446	1,474	8,907	5.10	454
WASH---	2,884	9,211	5.18	477	3,200	9,705	5.12	497	3,910	9,757	5.10	497	3,988	9,876	5.13	507
W. VA-	478	8,509	5.03	428	564	8,466	5.03	426	613	8,564	5.05	433	608	8,932	5.07	452
WIS---	2,539	8,494	5.15	438	2,566	8,721	5.16	450	2,295	8,799	5.12	450	2,261	8,923	5.07	452
WYO---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
U. S.-	106,523	8,593	5.01	431	105,484	8,718	5.01	437	107,241	8,786	5.01	440	106,976	8,914	5.00	445

TABLE 9.--AVERAGE YIELDS OF OFFICIAL OHI COWS CODED AS BROWN SWISS BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 1				1 9 6 2				1 9 6 3				1 9 6 4			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	206	9.371	3.91	366	221	9.033	3.95	357	291	9.710	3.92	380	408	10,133	3.92	397
ALASKA	...	...	...	...	1	15,180	4.12	626	40	14,984	3.80	570	42	14,455	3.58	518
ARIZ---	112	13.102	3.94	516	155	12,337	3.91	482	174	11,076	3.95	438	230	11,185	3.87	433
ARK---	12	9.761	3.78	369	17	9,382	3.74	351	20	9,633	3.86	373	29	11,900	3.80	452
CALIF--	...	...	...	...	1	19,050	3.68	701	132	13,691	4.01	549	473	14,172	3.93	556
COLO---	246	12,186	4.15	505	395	12,116	4.09	496	375	11,963	4.05	484	331	12,546	4.09	514
CONN---	321	12,781	4.16	531	356	13,266	4.16	552	349	12,855	4.17	537	385	12,991	4.20	546
DEL---	15	9.024	4.12	370	22	11,062	4.24	469	24	10,202	4.11	419	14	10,159	3.68	374
FLA---	44	11,929	3.94	471	84	11,911	3.84	457	237	11,749	3.88	456	328	12,166	3.78	460
GA---	146	9.403	4.03	379	181	10,284	3.97	408	269	10,896	3.95	430	492	11,512	3.91	450
HAWAII	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
IDAHO--	83	11,919	3.92	467	78	11,963	3.96	474	87	11,381	4.02	457	93	11,291	4.02	454
ILL---	1,761	11,012	4.08	449	1,839	11,216	4.07	457	1,972	11,901	4.06	483	2,157	12,063	4.09	494
IND---	693	11,446	3.57	455	897	11,838	3.99	472	978	12,317	4.02	495	1,090	12,400	4.03	500
IOWA---	2,643	10,583	4.02	425	3,127	10,767	3.99	430	3,028	11,428	3.99	455	3,251	11,760	3.97	467
KANS---	509	10,182	4.09	417	590	10,244	4.03	413	612	10,752	3.99	430	654	10,923	4.03	440
KY----	205	10,164	4.02	408	261	9,990	3.96	395	248	11,365	3.93	447	329	11,386	3.94	449
LA----	12	11,454	4.00	455	18	11,581	3.63	420	21	11,565	3.67	425	31	12,531	3.68	461
MAINE--	54	10,584	4.00	424	66	11,102	4.00	444	75	12,099	4.02	486	65	11,640	4.05	471
MD----	382	10,753	4.08	439	554	11,031	4.14	457	638	10,955	4.10	449	590	11,119	4.05	450
MASS---	244	11,291	4.11	464	205	10,876	4.07	443	184	10,892	4.05	441	188	11,659	4.02	469
MICH---	919	11,272	3.97	447	1,003	11,284	4.03	455	1,020	11,763	4.01	472	1,050	12,076	4.00	483
MINN---	1,313	11,009	3.92	431	1,468	10,875	3.95	430	1,634	11,137	3.93	437	1,910	11,550	3.93	454
MISS---	53	8,158	3.92	320	59	8,092	3.81	307	92	7,941	3.84	305	57	9,476	3.99	379
MO----	172	10,722	3.86	414	177	11,423	3.89	444	194	11,253	3.93	442	347	10,421	4.01	418
MONT---	41	12,157	4.16	506	49	11,859	4.18	496	44	12,635	4.13	522	59	12,551	4.14	520
NEBR---	259	10,122	3.99	404	313	10,548	3.97	419	426	10,860	4.01	435	493	11,205	4.01	450
NEV---	3	10,457	3.50	366	3	12,813	3.42	439	2	14,335	3.66	525	7	11,351	3.95	448
N. H---	53	11,198	4.05	454	81	11,287	4.09	462	84	11,710	4.07	477	96	11,584	4.02	466
N. J---	322	11,520	4.08	471	389	11,803	4.11	485	435	12,097	4.10	496	526	12,363	4.10	507
N. MEX	1	14,650	5.02	736	...	...	...	...	1	7,120	4.51	321	...	...	...	...
N. Y---	2,178	11,472	4.02	461	2,276	12,212	4.04	493	2,299	12,156	4.05	492	2,362	12,522	4.03	505
N. C---	385	9,582	3.97	380	338	9,999	3.99	399	418	10,594	3.95	418	504	10,751	3.92	421
N. OAK	237	9,226	4.07	375	329	9,711	4.07	396	302	10,436	4.04	422	296	10,933	3.93	429
OHIO---	1,591	11,441	4.08	467	1,753	11,818	4.10	484	2,352	12,407	4.12	512	2,719	12,364	4.12	509
OKLA---	76	8,875	3.90	346	30	9,053	3.93	356	63	9,877	3.87	382	123	10,808	3.83	414
OREG---	392	10,847	3.99	433	349	11,778	3.92	462	389	11,234	3.98	447	340	12,244	3.97	487
PA----	764	11,057	4.06	449	1,044	11,630	4.12	480	1,102	11,766	4.11	484	1,190	11,848	4.10	486
R. I---	3	12,493	3.87	485	1	9,340	4.51	421	1	9,650	4.46	430	1	9,450	4.18	395
S. C---	419	10,297	3.86	398	569	10,592	3.93	416	611	11,079	3.92	435	630	11,484	3.88	446
S. OAK	118	10,527	4.09	431	179	10,492	4.05	425	270	10,864	4.00	435	273	11,213	3.95	443
TENN---	48	12,051	3.93	473	132	10,582	3.87	409	241	10,677	3.96	423	590	10,436	4.01	418
TEX---	314	10,433	3.81	397	315	11,200	3.72	416	386	11,685	3.77	440	345	12,357	3.85	476
UTAH---	23	12,647	4.01	507	20	12,892	4.06	524	22	13,197	3.86	509	23	13,486	4.01	541
VT----	344	12,181	4.03	491	334	12,460	4.07	507	371	12,440	4.07	506	410	12,133	4.08	495
VA----	191	11,793	4.04	476	276	10,497	4.07	427	281	11,945	4.05	483	355	11,820	4.06	480
WASH---	180	12,250	4.03	493	212	11,788	4.10	483	230	12,368	4.07	503	278	12,289	4.04	497
W. VA--	5	8,248	4.02	331	2	9,660	3.71	358	6	9,830	3.79	375	12	9,645	4.02	388
WIS---	2,143	11,126	4.00	445	2,326	11,398	4.02	458	2,412	11,684	3.99	466	2,616	11,945	4.00	478
WYO---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
U. S.-	20,237	11,022	4.02	443	23,100	11,279	4.03	454	25,442	11,647	4.02	468	28,792	11,885	4.01	477

TABLE 10.--AVERAGE YIELDS OF OFFICIAL DHI COWS CODED AS BROWN SWISS BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 5				1 9 6 6				1 9 6 7				1 9 6 8			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	462	10,456	3.92	410	481	11,236	3.90	438	593	11,677	3.85	450	628	11,948	3.80	455
ALASKA	30	13,061	3.68	480	18	14,806	3.74	554	18	13,287	3.76	499	13	12,257	3.85	472
ARIZ--	236	12,292	3.94	484	151	10,857	3.80	412	83	11,063	3.74	414	79	14,529	3.85	563
ARK---	69	12,569	3.92	494	82	12,737	3.98	507	67	13,359	3.90	521	73	12,533	3.77	473
CALIF-	519	14,140	3.96	559	516	14,553	3.90	567	486	14,283	3.91	558	581	14,223	3.97	565
COLO--	320	12,545	4.08	512	308	12,144	4.16	505	295	12,453	4.14	515	363	12,910	4.04	521
CONN--	330	12,894	4.16	536	385	12,792	4.16	532	378	12,508	4.12	515	378	13,232	4.08	540
DEL---	25	11,238	3.89	440	32	11,305	3.87	438	45	10,925	3.75	412	38	11,548	3.81	441
FLA---	434	12,266	3.80	466	552	11,713	3.76	440	401	12,354	3.71	459	444	11,826	3.79	449
GA----	581	11,919	3.82	456	517	12,242	3.95	484	560	12,623	3.90	492	593	12,717	3.89	495
HAWAII	1	10,960	3.24	355	3	12,303	3.33	409	6	12,855	3.25	417	6	13,900	3.39	471
IDAHO-	114	12,342	4.07	502	132	12,839	4.03	517	156	12,576	3.99	502	169	12,022	3.99	481
ILL---	2,039	11,973	4.07	488	1,991	11,882	4.09	486	1,889	11,757	4.09	481	1,878	11,672	4.11	480
IND---	1,136	12,475	3.99	497	997	12,631	4.04	510	1,100	12,658	4.04	511	1,034	12,459	4.00	498
IOWA--	3,195	11,625	3.99	464	2,871	11,952	4.00	478	3,139	12,052	3.99	481	3,368	11,823	4.01	474
KANS--	730	10,831	3.99	432	688	11,368	4.04	460	796	11,730	4.03	472	939	11,595	4.03	467
KY----	337	11,287	3.94	444	326	10,956	3.94	431	367	11,095	3.89	431	369	11,501	3.91	450
LA----	35	13,021	3.64	473	66	11,406	3.61	411	63	11,990	3.70	444	82	11,965	3.72	445
MAINE-	48	12,154	4.01	487	46	11,344	4.05	459	53	10,379	4.13	429	48	10,637	3.97	422
MD----	461	11,832	4.11	487	539	12,003	4.18	502	572	11,675	4.16	486	549	11,552	4.10	473
MASS--	141	12,140	4.14	502	132	11,908	4.18	498	172	12,317	4.20	517	165	13,043	4.18	545
MICH--	866	12,140	3.98	484	770	12,270	4.00	491	636	12,103	4.01	486	582	11,962	4.01	479
MINN--	1,888	10,844	3.97	430	1,971	11,268	3.96	447	1,921	11,811	3.94	465	1,800	11,830	3.97	470
MISS--	33	10,577	3.93	417	44	11,518	3.98	461	62	10,457	4.08	428	67	10,836	4.00	434
MO----	318	11,053	3.97	438	395	11,440	3.99	457	531	11,181	3.92	439	565	10,687	3.97	425
MDNT--	60	12,268	4.10	502	87	11,926	4.17	498	77	13,813	4.20	580	114	14,099	4.10	578
NEBR--	592	11,214	4.01	450	567	11,868	4.05	480	609	11,674	4.07	475	587	11,764	4.07	478
NEV---	...	...	...	...	...	...	...	...	...	...	...	...	2	17,735	3.53	627
N. H--	128	11,359	3.95	449	147	12,052	3.94	475	146	11,009	4.01	442	147	11,777	3.93	463
N. J--	520	12,975	4.18	543	530	13,342	4.17	557	497	13,196	4.11	542	479	13,093	4.09	535
N. MEX	...	...	...	...	...	...	...	...	...	...	...	...	3	13,837	3.90	539
N. Y--	1,957	12,726	4.05	515	2,003	12,629	4.07	514	1,906	12,774	4.06	519	1,901	13,070	4.02	526
N. C--	516	11,186	3.94	440	508	11,682	3.91	457	502	12,159	3.93	478	518	12,536	3.93	493
N. DAK	223	10,824	3.98	431	147	12,212	4.05	495	153	12,363	4.08	504	167	12,598	4.18	527
OHIO--	2,519	12,485	4.11	514	2,367	12,378	4.13	512	2,489	12,161	4.14	504	2,125	12,129	4.16	504
OKLA--	132	11,506	3.85	444	210	11,457	3.77	432	230	12,259	3.86	473	241	12,457	3.92	489
OREG--	336	13,139	4.04	531	374	13,835	4.07	563	576	13,608	4.06	552	660	13,784	4.09	564
PA----	1,146	12,208	4.12	503	973	12,228	4.13	505	1,059	11,882	4.16	494	936	12,198	4.11	502
R. I--	...	...	...	...	...	...	...	...	1	12,150	4.35	529	...	...	...	...
S. C--	596	11,825	3.89	460	604	11,782	3.93	463	669	11,820	3.98	471	583	11,978	3.97	476
S. DAK	275	10,490	4.05	425	256	11,258	4.09	460	290	11,973	4.02	481	336	11,917	4.06	484
TENN--	708	10,569	3.97	419	796	10,704	3.91	419	748	11,294	3.93	444	691	11,629	3.96	460
TEX---	351	11,862	3.84	456	386	11,155	3.85	429	379	11,495	3.86	444	408	12,875	3.86	497
UTAH--	52	12,715	3.94	500	54	12,578	3.93	494	80	13,552	3.90	528	83	13,575	3.82	519
VT----	339	12,442	4.08	507	393	12,162	4.09	498	348	12,498	4.10	512	341	13,204	3.99	526
VA----	463	12,052	4.03	486	518	12,495	3.99	499	571	12,436	4.00	497	618	12,497	4.00	500
WASH--	337	12,314	4.05	499	388	13,281	4.04	537	477	13,927	4.00	557	469	14,142	3.99	564
W. VA-	15	9,604	3.97	381	20	11,213	4.06	455	20	10,279	4.02	413	32	11,191	3.94	440
WIS---	2,575	11,539	4.00	462	2,402	11,846	4.00	475	2,492	12,052	4.01	484	2,516	11,991	4.03	484
WYO---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
U. S.-	28,188	11,889	4.01	477	27,743	12,053	4.02	485	28,708	12,161	4.02	489	28,768	12,232	4.02	491

TABLE 11.--AVERAGE YIELDS OF OFFICIAL DHI COWS CODED AS MK. SHORTHORN BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 1				1 9 6 2				1 9 6 3				1 9 6 4			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	14	8,154	3.91	320	24	7,314	3.97	289	11	7,243	3.92	284	11	7,511	4.09	307
ALASKA	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ARIZ--	1	12,400	4.55	564	1	12,010	4.62	555	1	10,220	4.25	434	1	10,000	4.52	452
ARK---	50	8,853	3.87	342	80	9,091	3.77	342	66	9,311	3.47	323	79	10,595	3.47	368
CALIF--	...	...	...	...	...	...	...	...	3	12,880	4.14	533	5	10,668	4.10	437
COLO--	23	8,064	3.70	298	41	8,413	3.62	304	56	7,987	3.53	282	54	8,714	3.55	310
CONN--	1	7,210	3.76	271	...	...	...	...	...	...	...	...	1	13,320	3.75	500
DEL---	3	10,100	3.39	343	5	10,494	3.74	392	2	11,280	3.28	370	...	...	...	...
FLA---	...	...	...	...	...	...	...	...	2	10,000	4.12	412	6	10,047	3.79	381
GA----	5	8,216	3.57	326	15	8,634	4.00	346	15	8,195	3.79	310	16	9,159	3.86	354
HAWAII	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
IDAHO--	38	9,640	3.66	353	52	9,535	3.64	347	57	8,926	3.64	325	62	9,350	3.67	344
ILL---	204	8,465	3.67	311	217	8,377	3.71	311	218	8,884	3.69	328	221	8,731	3.74	326
IND---	142	9,477	3.71	352	137	9,866	3.76	371	166	9,963	3.71	369	151	10,433	3.70	386
IDWA--	447	8,826	3.76	332	654	8,495	3.76	319	553	9,350	3.70	346	603	9,536	3.70	353
KANS--	219	8,371	3.80	318	191	8,551	3.77	323	132	9,181	3.65	335	118	9,455	3.69	349
KY----	2	9,810	3.89	382	5	8,930	3.55	316	3	8,217	3.91	321	3	8,383	3.65	306
LA----	...	...	...	...	2	7,995	3.58	286	3	8,670	3.74	325	4	6,892	3.73	257
MAINE--	94	8,669	3.85	334	103	8,665	3.94	342	114	8,899	3.93	350	95	8,633	3.84	332
MD----	70	8,504	3.91	332	76	8,824	3.95	348	59	8,096	3.90	316	56	8,739	3.91	342
MASS--	59	7,791	3.91	305	52	7,781	3.67	287	55	7,621	3.71	282	82	8,541	3.69	314
MICH--	162	9,170	3.62	332	121	9,688	3.57	346	103	9,388	3.57	335	73	9,248	3.59	333
MINN--	294	8,283	3.80	314	422	8,266	3.76	311	440	9,062	3.70	335	496	9,474	3.62	343
MISS--	2	7,975	4.19	335	...	...	...	...	...	...	...	...	3	7,543	3.78	285
MD----	96	9,849	4.00	394	80	10,079	3.77	380	91	9,433	3.84	362	150	9,918	3.97	393
MDNT--	34	6,910	4.03	279	30	6,968	3.89	271	19	8,139	3.97	323	15	7,475	4.05	302
NEBR--	108	8,215	3.79	311	109	8,317	3.78	314	135	9,050	3.68	333	125	8,730	3.70	323
NEV---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
N. H--	39	8,202	3.66	300	57	8,783	3.71	326	43	9,442	3.61	340	36	9,079	3.71	338
N. J--	...	...	...	...	1	9,900	3.13	310	1	10,860	4.08	443	1	9,070	4.04	366
N. MEX	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
N. Y--	121	9,168	3.74	343	132	9,953	3.65	363	140	9,239	3.61	333	82	9,958	3.62	360
N. C--	2	8,135	3.74	304	8	8,689	4.00	348	7	8,880	3.87	344	4	10,830	3.84	416
N. DAK	80	9,276	3.68	342	72	8,631	3.84	331	73	8,808	3.63	319	62	9,921	3.62	359
DHID--	81	9,059	3.74	339	93	9,322	3.81	355	104	9,375	3.78	354	135	9,406	3.79	357
OKLA--	83	9,063	3.69	335	121	9,135	3.56	325	198	9,016	3.42	308	201	9,369	3.42	320
OREG--	79	9,653	3.71	359	58	9,952	3.70	368	61	9,460	3.77	357	48	9,512	3.81	364
PA----	130	8,970	3.74	336	162	9,465	3.70	350	155	9,516	3.57	339	181	9,304	3.67	342
R. I--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
S. C--	4	8,197	3.36	276	5	5,850	3.29	193	36	8,342	3.83	319	29	8,878	3.80	337
S. DAK	1	7,360	4.37	322	1	12,930	3.70	478	1	9,590	3.90	374	...	...	...	...
TENN--	42	7,176	4.05	290	56	7,038	3.85	271	54	8,531	3.80	324	18	7,835	4.00	315
TEX---	31	7,863	3.55	282	14	8,508	3.77	321	13	8,660	3.77	326	9	9,010	3.93	354
UTAH--	7	11,349	4.03	457	4	11,420	3.74	427	2	13,440	4.11	553	6	11,235	3.65	410
VT----	46	10,251	3.73	383	43	10,275	3.70	381	52	10,783	3.65	394	34	10,546	3.68	387
VA----	20	8,932	3.62	324	40	9,370	3.51	330	31	9,087	3.48	317	14	10,374	3.32	344
WASH--	67	8,536	3.75	320	82	9,553	3.79	362	101	8,926	3.81	340	131	8,548	3.75	321
W. VA--	1	9,830	4.52	444	2	8,850	3.73	331	...	...	...	...	1	11,340	4.09	464
WIS---	403	8,990	3.78	340	338	9,377	3.73	350	410	9,463	3.65	346	384	10,143	3.65	370
WYO---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
U. S.-	3,305	8,795	3.77	331	3,706	8,876	3.74	332	3,786	9,178	3.68	338	3,806	9,447	3.68	348

TABLE 12.--AVERAGE YIELDS OF OFFICIAL DHI COWS CODED AS MK.SHORTHORN BY STATE AND CALVING YEAR
ON A 2X, 305-DAY, M.E. BASIS

STATE	1 9 6 5				1 9 6 6				1 9 6 7				1 9 6 8			
	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT	RECORDS	MILK	%	FAT
ALA---	7	8,183	3.56	324	3	9,827	3.88	382	5	9,382	3.54	332	4	8,917	3.62	323
ALASKA	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ARIZ---	2	12,890	3.80	490	3	8,360	3.79	317	1	8,610	3.05	263	16	12,018	3.40	406
ARK---	90	11,034	3.35	370	87	10,465	3.45	361	16	10,754	3.46	371	50	10,913	3.57	390
CALIF---	11	13,227	3.91	518	9	12,477	3.72	465	7	15,189	3.53	537	61	11,481	3.71	426
COLO---	60	9,090	3.60	327	37	10,669	3.61	385	24	11,444	3.78	433	25	10,670	3.96	422
CONN---	2	8,690	4.77	415	3	9,850	4.04	398	4	12,765	3.94	503	2	9,785	4.12	403
OEL---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FLA---	7	9,020	4.01	361	3	10,610	3.96	420	4	9,045	3.83	346	6	9,662	3.60	348
GA----	19	8,039	3.72	299	9	10,092	4.07	411	6	9,855	4.01	395	6	10,602	3.97	420
HAWAII	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
IDAHO---	52	9,644	3.71	359	55	9,985	3.62	361	24	10,370	3.76	390	22	12,466	3.67	457
ILL---	216	8,514	3.65	311	84	8,698	3.59	312	12	10,459	3.67	381	39	11,423	3.77	430
IND---	94	10,723	3.63	390	83	11,204	3.63	406	16	9,740	3.50	341	39	11,321	3.71	421
IOWA---	594	9,337	3.69	345	522	9,394	3.71	348	137	9,655	3.66	353	293	9,370	3.71	348
KANS---	122	9,814	3.79	372	98	9,655	3.80	366	26	9,428	3.71	349	40	9,507	3.62	345
KY----	5	10,082	3.71	374	4	10,782	3.83	413	5	11,524	3.83	441	3	9,320	4.08	380
LA----	2	7,770	3.59	279	5	9,750	3.44	336	6	9,765	3.54	346	4	10,712	3.43	368
MAINE---	82	9,084	3.78	343	71	9,175	3.81	349	30	8,145	3.72	303	55	8,933	3.77	337
MD----	36	9,439	3.78	357	59	8,313	3.62	301	19	7,921	3.69	293	27	6,737	3.49	234
MASS---	78	8,358	3.79	317	74	8,326	3.83	318	20	8,763	3.83	339	32	9,883	3.81	377
MICH---	46	9,570	3.46	332	41	9,342	3.65	341	10	9,512	3.51	334	34	9,694	3.59	348
MINN---	462	9,212	3.70	341	510	9,500	3.69	350	170	9,608	3.66	352	316	10,465	3.70	387
MISS---	4	8,672	3.97	345	5	8,428	3.85	324	3	11,883	3.77	448	2	12,565	3.59	451
MO-----	242	10,336	3.90	403	212	10,768	3.86	416	40	10,362	3.71	385	131	10,146	3.75	380
MONT---	2	9,165	3.68	337	11	7,958	3.90	310	1	8,170	3.61	295	3	11,807	4.20	495
NEBR---	137	8,126	3.63	295	125	8,421	3.65	308	40	8,209	3.70	303	73	8,670	3.86	335
NEV---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
N. H---	36	8,851	3.77	333	16	9,941	3.77	374	5	9,938	3.88	388	3	7,893	3.87	306
N. J---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
N. MEX	...	...	...	...	...	...	...	...	...	...	...	...	1	10,520	4.31	453
N. Y---	78	10,198	3.60	367	64	9,926	3.66	363	16	11,229	3.54	398	38	10,290	3.51	361
N. C---	2	12,990	3.84	499	5	11,386	3.81	434	5	12,404	3.89	482	3	13,437	3.48	468
N. OAK	50	9,239	3.65	337	54	9,883	3.60	355	16	8,143	3.75	305	28	10,320	3.68	379
OHIO---	148	8,950	3.75	336	146	9,235	3.69	341	155	8,816	3.79	334	116	9,162	3.77	345
OKLA---	209	10,100	3.40	344	241	10,002	3.42	342	104	10,352	3.39	352	198	9,990	3.49	348
OREG---	82	9,665	3.87	375	60	9,870	3.84	379	54	11,254	4.00	451	62	11,039	4.06	450
PA----	163	9,328	3.68	343	141	9,480	3.70	351	39	9,351	3.76	352	73	10,764	3.71	399
R. I---	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
S. C---	31	9,991	3.63	364	12	10,261	3.62	371	14	10,459	4.05	423	8	11,361	3.66	415
S. DAK	...	...	...	...	1	13,630	3.08	420	15	10,201	3.54	361	18	9,184	3.65	332
TENN---	7	8,227	4.30	354	4	8,612	4.51	389	6	8,557	4.25	364	4	8,372	4.25	355
TEX---	11	8,431	3.98	336	9	9,196	3.84	353	10	9,030	3.83	346	6	11,838	4.01	475
UTAH---	7	11,471	3.74	429	5	11,302	3.96	447	4	12,250	3.95	483	7	11,606	3.86	448
VT----	31	11,210	3.64	408	46	10,047	3.76	377	8	9,667	3.55	343	30	10,346	3.69	382
VA----	10	9,725	3.41	331	3	11,493	3.56	409	3	9,967	3.57	355	4	9,505	3.64	346
WASH---	120	8,808	3.81	336	112	9,343	3.74	349	37	10,238	3.70	379	66	10,502	3.85	405
W. VA-	1	9,640	4.07	392	1	11,890	4.00	476	1	5,690	3.78	215	...	...	...	...
WIS---	402	9,432	3.70	349	394	9,517	3.69	351	91	10,089	3.69	373	211	9,927	3.78	375
WYO---
U. S.-	3,760	9,429	3.69	348	3,427	9,604	3.68	354	1,209	9,753	3.69	360	2,159	10,066	3.71	374

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